

IN THE CLAIMS

Please amend the claims as follows:

1. (Previously Presented) A method for manufacturing a planar lightwave circuit having a metallic film, comprising the steps of:

preparing a mask having a hole formed in approximately the same shape as the metallic film;

arranging said mask such that the hole of the mask corresponds to a manufacturing portion on said planar lightwave circuit, where said metallic film is to be formed ; and

manufacturing the metallic film in the manufacturing portion on at least one of front or rear faces of the planar lightwave circuit through the hole of the mask.

2.(Previously Presented) A method for manufacturing the planar lightwave circuit according to claim 1, wherein the metallic film is manufactured after performing an annealing process of the planar lightwave circuit .

3.(Currently Amended) A planar lightwave circuit having a metallic film and a waveguide construction of an arrayed waveguide grating, and this waveguide construction comprising:

one or more optical input waveguides arranged side by side;

a first slab waveguide connected to an exit end of said optical input waveguides;

an arrayed waveguide connected to an exit end of said first slab waveguide, and

having a plurality of channel waveguides arranged side by side for transmitting light that has traveled through said first slab waveguide, said channel waveguides having different lengths with the difference preset;

a second slab waveguide connected to an exit end of the arrayed waveguide; and

a plurality of optical output waveguides arranged side by side and connected to an exit end of said second slab waveguide;

wherein at least one of said first and second slab waveguide is divided into two by intersecting planes that intersect a route of the light traveling along the slab waveguide,

the intersecting planes serve as dividing planes and divide a waveguide forming region into a first waveguide forming region that includes one portion of the divided slab waveguide and a second waveguide forming region that includes the other portion of the divided slab waveguide, one of or both of the first waveguide forming region and the second waveguide forming region are moved along the dividing planes by a position shifting member;

an end portion side of the position shifting member is fixed to at least the one of the first waveguide forming region and the second waveguide forming region through the metallic film; and

the metallic film is ~~manufactured by a manufacturing method comprising the steps of~~ formed on at least one of front and rear faces of the planar lightwave circuit, said metallic film having a shape that corresponds to a hole formed in a mask used to make said metallic film.

~~preparing a mask having a hole formed in approximately the same shape as the metallic film to be manufactured on at least one of front and rear faces of the planar lightwave circuit;~~

~~arranging said mask such that the hole of the mask corresponds to a manufacturing portion on said planar lightwave circuit, where said metallic film is to be formed; and~~

~~manufacturing the metallic film in the manufacturing portion through the hole of the mask.~~

4. (Currently Amended) A planar lightwave circuit having a metallic film and ~~the~~ a waveguide construction of an arrayed waveguide grating, and this waveguide construction comprising:

- one or more optical input waveguides arranged side by side;
- a first slab waveguide connected to an exit end of the optical input waveguide;
- an arrayed waveguide connected to an exit end of said first slab waveguide;
- a second slab waveguide connected to an exit end of said arrayed waveguide; and
- a plurality of optical output waveguides arranged side by side and connected to an exit end of said second slab waveguide;

wherein at least one of said first and second slab waveguides is divided into two by intersecting planes that intersect a route of the light traveling along the slab waveguide;

an end portion side of a position shifting member is fixed to at least one of the first waveguide forming region and the second waveguide forming region through the metallic film; and

said metallic film is formed on at least one of front and rear faces of the planar lightwave circuit, said planar lightwave circuit having been subjected to an annealing process, said metallic film having a shape that corresponds to a hole formed in a mask used to make said metallic film ~~is manufactured by the method comprising the steps of:~~

~~preparing a mask having a hole formed in approximately the same shape as the metallic film to be manufactured on at least one of front and rear faces of the planar lightwave circuit;~~

~~arranging said mask such that the hole of the mask corresponds to a manufacturing portion on said planar lightwave circuit, where said metallic film is to be formed; and~~

~~manufacturing the metallic film in the manufacturing portion through the hole of the mask~~

Application No. 09/803,964

Reply to Office Action of September 10, 2003.

~~wherein the metallic film is manufactured after annealing process of the planar~~  
~~lightwave circuit is performed.~~